



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D2011-101
Job Sheet 178646



Part No: D2011-101

Job Qty: 30 ea

Part Name: Mirror 6"



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/5/18

Job Tracking No:

Due Date: 6/15/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV G IPP: J 04.09.15 Added Steps 5-7 KJ/JLM IPP: K 05.12.15 chg black sikaflex for white EC IPP L 08.11.06 new drawing EC verify: DD IPP: M 08.12.19 Added step 3 KJ Verified by: LL IPP rev N 10.01.13 added wrap per ncr09-118 EC verified by:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	30 pcs		6/15/18	0.00	0.00	Purchasing		<i>msf 18.06.21</i>
110	Packaging	30 pcs		6/15/18	0.00	0.00	Packaging2		<i>msf 18.06.21</i>
120	QC	30 pcs		6/15/18	0.00	0.00	QC6		<i>38</i>
130	Small Fab	30 pcs		6/15/18	0.00	3.41	Small Fab-1	<i>DAS 9-89</i>	<i>38</i>
140	QC	30 pcs		6/15/18	0.00	0.00	QC5	<i>6</i>	<i>38</i>
150	Packaging	30 pcs		6/15/18	0.00	0.00	Packaging3-1	<i>9-89 DAS</i>	<i>JUL 12 2018</i>
160	QC21-SA	30 Ea		6/15/18	0.00	0.00	QC21	<i>21</i>	<i>JUL 12 2018</i>

Part Op 100 - Issue P/O: *040129* Mirror P/N: 28663 supplier: B C INDUSTRIAL *3-90 06/07/18 0-03*

Descriptions: 110 - Ensure material certification is attached

130 - 1- Wrap mirror with plastic wrap 2- Discard Hardware & Install new hardware loosely 3- Crimp stud as per Dwg D2011

140 - 4- Test assembly to 50lbs pull test after 24 hours

160 - Mirror P/N: CHM10601 Possible supplier: Auto Parts Extra

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
CHM-10601	Mirror 6"	30 pcs (1 ea)	100-Purchasing	<i>5083119</i>
D2829	Threaded Stud	30 Ea (1 ea)	130-Small Fab	<i>5085317</i>
D3014-1	Lock Nut	30 Ea (1 ea)	130-Small Fab	<i>17/61704 17x 5082410 13x</i>
NAS1149D0416J	Washer	30 Ea (1 ea)	130-Small Fab	<i>F-1131511</i>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	CHM-10601	30	0	0
130-Small Fab	D2829	30	2	0
	D3014-1	30	21	0
	NAS1149D0416J	30	3,007	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



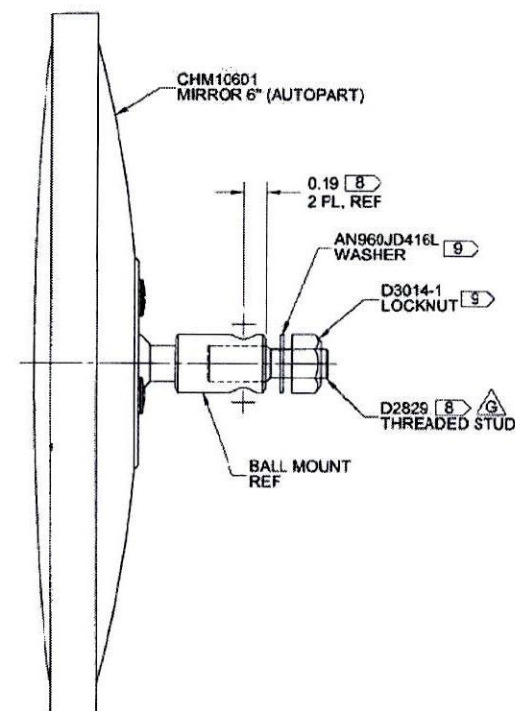
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

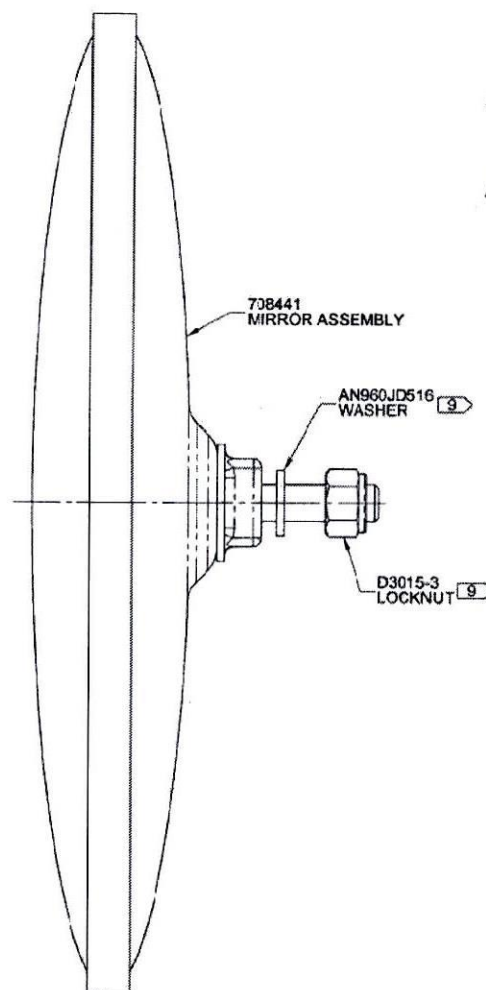
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Re/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																																																															
Date : _____		Step #: _____		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																																																																													
Dart Aerospace Ltd. 1270 Aberdare Street Haverhill, MA 01830 CANADA TEL: 1 813 632-5200 Email: sales@dartaero.com www.dartaero.com Date: 06/21/18 Container No: S083123 Part: D2011-101 Job No: 178646 Serial No/Batch: S083123 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: _____																																																																																																																	
Dart Aerospace Ltd. 1270 Aberdare Street Haverhill, MA 01830 CANADA TEL: 1 813 632-5200 Email: sales@dartaero.com www.dartaero.com Date: 06/21/18 Container No: S083123 Part: D2011-101 Job No: 178646 Serial No/Batch: S083123 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: _____																																																																																																																	
Dart Aerospace Ltd. 1270 Aberdare Street Haverhill, MA 01830 CANADA TEL: 1 813 632-5200 Email: sales@dartaero.com www.dartaero.com Date: 06/21/18 Container No: S083123 Part: D2011-101 Job No: 178646 Serial No/Batch: S083123 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: _____																																																																																																																	
Root Cause <table style="width:100%; border-collapse: collapse;"> <tr><td>Environment</td><td>☐</td><td>No Re-verification</td><td>☐</td></tr> <tr><td>Design</td><td>☐</td><td>Operator</td><td>☐</td></tr> <tr><td>Doc/Data</td><td>☐</td><td>Offset/Setup</td><td>☐</td></tr> <tr><td>Equip/Tooling</td><td>☐</td><td>Supplier</td><td>☐</td></tr> <tr><td>Handling/Pre</td><td>☐</td><td>Training</td><td>☐</td></tr> <tr><td>Material</td><td>☐</td><td>Use for Testing</td><td>☐</td></tr> <tr><td>Internal Transport</td><td>☐</td><td>Poor Information</td><td>☐</td></tr> <tr><td>Tribal Knowledge</td><td>☐</td><td>Rushing</td><td>☐</td></tr> <tr><td>LOA</td><td>☐</td><td>Product Improvement</td><td>☐</td></tr> <tr><td>Substation</td><td>☐</td><td>Process Improvement</td><td>☐</td></tr> <tr><td>Past Expiry Date</td><td>☐</td><td>Manufacturing Process</td><td>☐</td></tr> <tr><td>Misidentified</td><td>☐</td><td>Past Due</td><td>☐</td></tr> </table>		Environment	☐	No Re-verification	☐	Design	☐	Operator	☐	Doc/Data	☐	Offset/Setup	☐	Equip/Tooling	☐	Supplier	☐	Handling/Pre	☐	Training	☐	Material	☐	Use for Testing	☐	Internal Transport	☐	Poor Information	☐	Tribal Knowledge	☐	Rushing	☐	LOA	☐	Product Improvement	☐	Substation	☐	Process Improvement	☐	Past Expiry Date	☐	Manufacturing Process	☐	Misidentified	☐	Past Due	☐	<table style="width:100%; border-collapse: collapse;"> <tr><td>☐</td><td>Broken/Damage/Defect</td><td>☐</td><td>Grain</td><td>☐</td><td>Positioned Wrong</td></tr> <tr><td>☐</td><td>Inspection Incomplete/Unqualified</td><td>☐</td><td>Weld</td><td>☐</td><td>Outside Dimensions</td></tr> <tr><td>☐</td><td>Contamination</td><td>☐</td><td>Wrong Stock Pulled</td><td>☐</td><td>Over/Under tolerance</td></tr> <tr><td>☐</td><td>Countersink</td><td>☐</td><td>Out of Sequence</td><td>☐</td><td>Part Incorrect</td></tr> <tr><td>☐</td><td>Cut Too Short</td><td>☐</td><td>Off-set</td><td>☐</td><td>Part Lost/Missing</td></tr> <tr><td>☐</td><td>Instructions Incomplete/Unclear</td><td>☐</td><td>Mislabeled</td><td>☐</td><td>Part Moved</td></tr> <tr><td>☐</td><td>Drill Holes</td><td>☐</td><td>Fit/Function</td><td>☐</td><td>Drawing</td></tr> <tr><td>☐</td><td></td><td>☐</td><td>Misaligned/off center</td><td>☐</td><td>Finish</td></tr> <tr><td>☐</td><td></td><td>☐</td><td></td><td>☐</td><td>Misread</td></tr> <tr><td>☐</td><td></td><td>☐</td><td></td><td>☐</td><td>Turning Sequence</td></tr> </table>				☐	Broken/Damage/Defect	☐	Grain	☐	Positioned Wrong	☐	Inspection Incomplete/Unqualified	☐	Weld	☐	Outside Dimensions	☐	Contamination	☐	Wrong Stock Pulled	☐	Over/Under tolerance	☐	Countersink	☐	Out of Sequence	☐	Part Incorrect	☐	Cut Too Short	☐	Off-set	☐	Part Lost/Missing	☐	Instructions Incomplete/Unclear	☐	Mislabeled	☐	Part Moved	☐	Drill Holes	☐	Fit/Function	☐	Drawing	☐		☐	Misaligned/off center	☐	Finish	☐		☐		☐	Misread	☐		☐		☐	Turning Sequence
Environment	☐	No Re-verification	☐																																																																																																														
Design	☐	Operator	☐																																																																																																														
Doc/Data	☐	Offset/Setup	☐																																																																																																														
Equip/Tooling	☐	Supplier	☐																																																																																																														
Handling/Pre	☐	Training	☐																																																																																																														
Material	☐	Use for Testing	☐																																																																																																														
Internal Transport	☐	Poor Information	☐																																																																																																														
Tribal Knowledge	☐	Rushing	☐																																																																																																														
LOA	☐	Product Improvement	☐																																																																																																														
Substation	☐	Process Improvement	☐																																																																																																														
Past Expiry Date	☐	Manufacturing Process	☐																																																																																																														
Misidentified	☐	Past Due	☐																																																																																																														
☐	Broken/Damage/Defect	☐	Grain	☐	Positioned Wrong																																																																																																												
☐	Inspection Incomplete/Unqualified	☐	Weld	☐	Outside Dimensions																																																																																																												
☐	Contamination	☐	Wrong Stock Pulled	☐	Over/Under tolerance																																																																																																												
☐	Countersink	☐	Out of Sequence	☐	Part Incorrect																																																																																																												
☐	Cut Too Short	☐	Off-set	☐	Part Lost/Missing																																																																																																												
☐	Instructions Incomplete/Unclear	☐	Mislabeled	☐	Part Moved																																																																																																												
☐	Drill Holes	☐	Fit/Function	☐	Drawing																																																																																																												
☐		☐	Misaligned/off center	☐	Finish																																																																																																												
☐		☐		☐	Misread																																																																																																												
☐		☐		☐	Turning Sequence																																																																																																												
OTHER : _____																																																																																																																	

8 7 6 5 4 3 2 1



D2011-101 MIRROR ASSEMBLY 6"



D2011-103 MIRROR ASSEMBLY 8"

ITEM	QTY -101	QTY -103	P/N	DESCRIPTION
1	X		D2011-101	MIRROR ASSEMBLY 6"
2		X	D2011-103	MIRROR ASSEMBLY 8"
3	1		D2829	THREADED STUD
4	1		D3014-1	LOCKNUT
5		1	D3015-3	LOCKNUT
6	1		CHM10601	MIRROR 6" (AUTOPART)
7		1	708441	MIRROR 8" (VELVAC)
8	1		AN960JD416L	WASHER
9		1	AN960JD516	WASHER

RELEASED
08-10-29-107

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: D2011-101 = 0.6 lbs APPROX. ; D2011-103 = 1.0 lbs APPROX.
 - 8) D2829 INSTALLATION PROCEDURE:
 - APPLY LOCKTITE 262 TO Ø 5/16 END OF D2829
 - THREAD BY HAND INTO BALL MOUNT UNTIL ENTIRE Ø 5/16 END OF D2829 IS WITHIN BALL MOUNT
 - CRIMP BALL MOUNT ON TWO OPPOSING SIDES, 0.19 FROM END AS ILLUSTRATED USING TOOL DT8317
 - CRIMP TO DEPTH OF 0.040 ± 0.010 USING R0.125
 - 9) INSTALL LOOSE

G	REDRAWN IN SOLIDWORKS TO CURRENT STANDARD AND TRANSFERRED TO "B" SIZE FORMAT. MIRROR 6" (AUTOPART) AND CHM10601 WERE MIRROR 6" (GROTE) AND PIN 28043 (ZN D3-1). ADDED D2829 (ZN D3-1 AND ZN C8-1). REMOVED DRILLING NOTE, VIEW A-A AND SIKAFLEX APPLICATION NOTE. GROTE PRODUCT IS DISCONTINUED	MB	08.10.06
F	ADD HOLES FOR SEALANT ON -101	CP	04.09.10
E	NEW 8" MIRROR	CP	01.05.06
D	NEW 6" MIRROR, ADD NUT, REMOVED STUD	CP	01.04.23
C	REPLACE DOMINION AUTO MIRRORS WITH PHILLIPS, ADDED STUDS, REDRAWN	RF	99.06.01
B	SIKAFLEX 241 ADDED	JB	98.04.09
A	DWG NO. WAS DSP1011, ADDED -103	JB	90.06.15
-	NEW ISSUE	JB	90.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.06		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D2011** REV. G
SHEET 1 OF 1
TITLE **MIRROR ASSEMBLY** SCALE NTS

COPYRIGHT © 1990 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

8 7 6 5 4 3 2 1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO040129

Supplier: BCI001-VC
B C Industrial
14 Old Forest
Kirkland
QC
H9J 2Z8 Canada
Phone: 514-585-8907

PO No: PO040129
PO Date: 6/7/18
Due Date: 6/21/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

E-MAILED
JUN 08 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	28663			Mirror 6"	Firmed	6/21/18	30 Ea	0 Ea	30 Ea	\$18.70/Ea	\$561.00

DAS
38
288

Line Item Note job# 178646

Grand Total: \$561.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

CZ
10/2/18

Plex 6/7/18 10:51 AM Dart.Baker.Diane

June 21 2018

Packing Slip

PS180621DA

Votre PO# 40129

Livrer a/Ship to:

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Description

Livrer/Ship

B/O

1.

mirrors 28663

30

0

cms.
18.06.21

BC Industrial.... 14 Old Forest....Kirkland, Quebec.. H9J2Z8
Phone 514-585-8907 bcpc1@videotron.ca

DA
38
9-8

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada

Phone 514-585-8907

Email bcpc1@videotron.ca

Certificate of Compliance

June 21 2018

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Att: Chantal Lavoie

This is to confirm that the parts delivered on our

PS180621DA

mirrors 28663

conforms to the specifications outlined on your purchase
order 40129

Thank you

Bryan Cameron

DAS
38
9-89

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30